The Struggle to Eat Well

The Report of the Concurrent Disorder Nutrition Project

A joint project of
St. Stephen's Community House and
Toronto Western Hospital – University Health Network (UHN)

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TABLE OF CONTENTS

Section I

INTRODUCTION AND SUMMARY

In the spring of 2004, representatives of St. Stephen's Community House and Toronto Western Hospital began meeting to discuss a research project related to the nutritional needs of people with concurrent disorders. These two organizations were both members of the Concurrent Disorder Cluster Group and had been planning joint services for this population for several years involving the Mental Health and Addiction Services at the Hospital, the Corner Drop-in and Odette Place Supportive Housing at the Community House. Members of the Cluster Group, which would later become the Toronto Concurrent Disorders Network, St. Stephen's and Toronto Western Hospital, developed trust and a desire to work together on a range of initiatives from direct service, to research and education. They also wanted to find ways to exchange expertise in the Hospital and in the community to create better outcomes for the people using their services.

- A joint steering committee was struck and with the assistance of social worker Lily Grewal, a successful proposal was submitted to Wellesley Central Health Corporation in the autumn of 2004 to complete an environmental scan on this issue. With approval during the winter, the scan began in the spring of 2005. Nicci Stein and later Robin Griller were hired to assist the Steering Committee with three activities: A literature review was completed on nutrition and concurrent disorders, including fifty books and articles from 1988 through 2005. The detailed review is found in this report and covers pages 6 – 19. A community scan was completed, including a survey with twenty seven service providers and six networks, and interviews with twenty nine people living with concurrent disorders. The detailed scan is found in this report and covers pages 24 – 39.

- The Committee identified a set of eight action items or recommendations that emerged from the scan and review. The action items are found in this report and cover pages 40 – 42.

The Steering Committee will distribute this report widely to all who participated in the environmental scan, and especially to the Toronto Concurrent Disorders Network, which is a leader in improving the understanding and practice for this population, and Wellesley Central Health Corporation, which is a catalyst for change through community-based research and capacity building.

The Steering Committee wish to express a sincere thank you to the twenty nine individuals who shared their personal experiences in and around the struggle with this disorder, with homelessness and with hunger. Their openness and honesty was staggering, and their ability to articulate the needs and solutions was very valuable.

The Committee thanks all of the organizations and networks that participated in this scan – particularly the Toronto Concurrent Disorders Network, the Toronto Drop-In Network and the Toronto Harm Reduction Task Force, which provided feedback to our draft report. The Steering Committee also welcomes support and input from these partners and others to deliver on the eight action items identified by this report.

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Section II

LITERATURE REVIEW

As a subset of the homeless and marginally housed, those living with concurrent disorders – both mental health and substance use issues, have emerged as a major focus for social service agencies and for researchers. While the numbers of people with concurrent disorders are not certain, it has been estimated that 25% or more of the homeless population are people with concurrent disorders.[48] This segment of the homeless population is seen as having issues that are more than the sum of their parts, requiring services that respond to the particular constellations of difficulties they are facing.[6,18,24,26,27,28,34,35,41,45] That being said, in examining the research on nutrition and concurrent disorders, the first thing to note, is that there is no research that directly asks the question, 'what is the nutritional status of those dealing with both mental health and substance use issues?' Rather, the research on nutrition in this area focuses on the question of the nutritional intake and nutritional status of the homeless and of those using services aimed at the homeless and marginally housed. Researchers have attempted, in numerous studies over a period of years, to determine whether the homeless have adequate dietary intake, as well as the degree of possible malnutrition faced.[1,5,8,15,16,20,22,23,38,40,42,48,49,51]

In light of this and in order to get at the question of the nutritional needs of those with concurrent disorders, then, we will need to take a slightly roundabout route. Thus, we will begin here by examining the research on the nutritional intake and status of the homeless. An important more recent development in studies on nutrition and the homeless/marginally housed looks at questions of food security: that is, that the uncertainty of food supply has consequences for these populations beyond those of direct malnutrition or dietary inadequacy. The discussion of nutrition and the homeless will continue with an examination of the research as it pertains individually to those with mental health issues and those with substance use issues.

Having looked at the direct food question, we will move on to examine other questions that must be considered if we are to understand the need for future research and work on nutrition for those with concurrent disorders. The issue is not simply access to food of course, and this is particularly true for those with concurrent disorders. Before trying to put the two together and reach some conclusions for possible future research, we will look at some of the issues relating to substance use and to mental illness that will likely impact on food consumption among those with concurrent disorders. We will also examine possible routes for social service agencies to take in their attempt to better serve those with concurrent disorders, particularly as it relates to client nutrition and the delivery of food.

NUTRITION AMONG THE HOMELESS AND MARGINALLY HOUSED

As indicated above, there is a substantial body of research on the adequacy of the nutritional food available, to those using the services that are aimed at the homeless. This research follows two different paths. Some research looks at the intake (how much and what kind of food is consumed), [1,5,15,16,20,23,38, 48,49]while other research looks at the outcome (Body Mass Index, triceps thickness and/or upper arm circumference) of food consumption. [8,15,20,38,40,42]

FOOD INTAKE

In examining the nutritional adequacy of the food consumed by the homeless and marginally housed, researchers generally depend on the recall of the research subjects,[1,20,23,40,49] though there has been some research that relies on food diaries of participants[5] or food menus from shelters.[16] For example, in a study of homeless women in Toronto[1], Terry Bunston and Margot Breton asked each respondent 'to tell us everything she had eaten, snacks as well as meals, the day prior to the interview.'(46) Researchers, having asked respondents to report the foods and quantities eaten, then attempt to determine the nutritional adequacy of the foods consumed.

Most North American studies conclude that the diets of homeless people are inadequate in a number of ways. First, the overall food consumed is reported to be below that necessary for maintenance of health and bodyweight. [1,15,38,40,48,49] In a study of older homeless women, Johnson and McCool found that, while the mean caloric intake was 1460/day, 26.9% of their respondents consumed less than 1,000 calories per day and almost 60% under 1,500 per day.[15] Surveys have indicated that homeless adults report "sometimes or often" consuming inadequate amounts of food (367) almost twice as often (38% to 20%) as housed low-income adults.[48] An analysis of the research on homeless nutritional intake in the United States[48] concluded that 'homeless persons eat fewer meals per day, lack food more often, and are more likely to have inadequate diets and poorer nutritional status than housed populations.'(364) In addition, a number of researchers report that sufficient quantities of particular kinds of food were not consumed, in particular fruits and vegetables.[1,15,20] Bunston and Breton found that homeless women in Toronto consume a smaller quantity of servings than recommended by Canada's Food Guide in all four categories, with the shortfall being most pronounced in Vegetables & Fruit, Grain Products, and Milk Products[1].

The research, however, is not entirely clear on the question of whether homeless people consume sufficient calories or quantities of food, especially if we include research on the impact of social services (shelters and food banks in particular) and European research. A German study[20] and a French study, [23]both conclude that there was no shortage of food for homeless adults. In a study of seventy-five homeless adults in Germany, Langnäse

and Műller found that 76% of their respondents had a 'normal dietary pattern' (805), while the French study found that diets were relatively well-balanced in macronutrient intake, but had a low total caloric intake.[23] North American research examining the impact of shelters[49] and food banks[42] suggests that it may be that those homeless individuals who access the services available have adequate nutritional intake. Thus, a study of food bank users in Montreal concluded that while caloric intake was 'below recommended levels', it was not at a level that would produce 'chronic' problems.[42] It is important to note that the Montreal study reached a housed population rather than the homeless populations studied by other research carried out here.

Where the results are absolutely clear, is in the study of the overall quality of the diets of the homeless: that is, most studies have concluded that the diets of homeless adults and children are inadequate, in that they consume too few micronutrients and too much fat. Thus, a variety of studies have examined vitamin and mineral intake, concluding variously that homeless people consume dangerously low quantities of B-6, calcium, zinc, iron, vitamin A, magnesium, folic acid, thiamine, etc.[1,5,15,16,20,23,38,48,49] It is important to note that the under-consumption of micronutrients is not by a small margin, but, rather can be characterized as a 'dramatic shortage'(20: 805), given that intakes can be less than two-thirds of the recommended daily intake of many of these vitamins and minerals[40] or even, in one study, less than half the Recommended Daily Allowance for a wide range of nutrients (iron, magnesium, zinc, folic acid, and calcium)[5]. Similarly, while many studies found a serious shortfall in vitamin and mineral consumption, the reverse was found to be the case for fat consumption, with studies finding that, for example, New York soup kitchen menus met or exceeded fat recommendations[48], shelter meals for homeless women were high in saturated fats and simple carbohydrates.[15]

NUTRITIONAL OUTCOMES

There are potential problems with much of the research on nutritional intake – given that it depends on respondents to be able to recall their intake and assess quantities or alternatively measures the nutritional characteristics of the food offered. This misses the

question of what people *actually* consume - the research that uses anthropometric measures of nutritional status gives a more direct picture of the nutritional status of homeless populations. In this type of research, physical characteristics of the research subjects were measured in order to gauge the long-term results of their food consumption and to determine if they suffered from malnutrition. A variety of physical measures have been used including Body Mass Index (BMI), a measure of weight relative to height, Triceps Skinfold (TSF), upper arm circumference (AC) and upper arm muscle area (AMA). While a low BMI suggests general undernourishment, low muscle area and skinfold measures can specify muscle wasting that may result from malnourishment.

The most interesting thing to note about this type of research is that, with one exception,[42] even where the food intake research suggests that homeless people are not malnourished, taking measures of people's physical bodies indicates that homeless people are, over the long run, indeed malnourished. Thus, in the study of German homeless adults,[20] over half the respondents were found to be malnourished on at least one of the three above measures (806). Over half the population studied, had a BMI lower than 20, indicating malnutrition, or a Triceps Skinfold Test or upper arm muscle area (AMA) lower than the 25th percentile in the population. In an American study of homeless adults[8] that used stricter criteria for inclusion in the 'undernourished' (451) category, the researchers concluded that one third of the population studied, was undernourished and an additional 18% 'thin or emaciated'. These results were despite Gelberg et al.[8], having classed their respondents as undernourished if they fell in the bottom 15% of the population on BMI (22% of the respondents), TSF (17%), or AMA (21%). In a study of older homeless women, only 13.5% had a BMI in the desired range, with over half falling below the desired range for BMI and another 15% falling into the 'obese' category.[15]

While a substantial proportion of the people studied were found to be malnourished, there were exceptions, including substantial numbers of overweight people. One study, which provided a general exception to the common pattern of undernourished, homeless and marginally housed respondents, is the study of food bank users in Montreal.[42] Here it

was concluded that the average food bank user had a *higher* than average body mass index. Note, given that it is a study of food bank users, as compared to the other studies being explicitly focused on the homeless, the Montreal research reached a different population, a housed population, which is unlike the other studies under consideration here. Other studies, however, also found significant numbers of overweight respondents,[15,40] although the majority of respondents in one of these studies had low BMI and potential muscle wasting.[15] Some research[48] suggests that obesity occurs among homeless, adult outpatients, at a rate comparable to that among housed adults (368). Similarly, another study[15] found that homeless women had excess fat in locations that suggested greater 'risk of chronic diseases, such as diabetes, hypertension, and cardiovascular disease' (15).

Other methods of examining nutritional outcomes also considered diet-related illnesses in the population studied. Interestingly, while there is ample evidence that food related illness is common in homeless populations, especially among homeless children, [46,48] the studies that examine food consumption directly did not generally attempt to draw a direct relationship between food consumption and illness. When this was explored, given the small sample sizes, it is not surprising that the results were not generally statistically significant.[1,20] Thus, while it is entirely likely that homeless people have particular diet related illnesses at higher rates than the general population, American evidence is inconclusive on rates of heart disease and stroke.[48] At the same time, a study of diabetes management among the Toronto homeless[13] indicates that homeless people have a difficult time dealing with health issues that impact on their dietary needs. The vast majority of the respondents in the study found it difficult to manage diabetes, and the most common single difficulty is maintaining an appropriate diet (161).

In conclusion, in examining the general literature on the diets and nutritional status of homeless people, it is clear that homeless people suffer the possibility of malnourishment, including at the very least, a high likelihood of being undernourished when it comes to important micronutrients resulting from diets that are poor in fruits and vegetables and high in fats and simple carbohydrates. That homeless people live with the consequences of poor diets is clear in the studies that consider anthropometric

variables; many homeless people do not eat enough food and even where homeless people are eating enough, they generally are not eating a wide variety or healthy distribution of food, to reduce the risk of developing chronic disease or to manage existing medical concerns.

FOOD SECURITY

In more recent years, research and writing on homelessness and food have begun to shift in an important new direction, from assessing the adequacy of the nutritional intake of the homeless, to the question of food security and its impact on the homeless and marginally housed.[2,3,4,7,29] Food security has been defined in a variety of manners, but 'at a minimum includes the following: 1) the ready availability of nutritionally adequate and safe foods and, 2) the assured ability to acquire personally acceptable foods in a socially acceptable way (2: 408). Researchers working on food security have pointed out that whether people are eating adequate diets at any given moment, the long-term health impacts of not having a *secure* and *acceptable* food supply are negative. The lack of food security – that is, uncertain or limited access to the food required for good health and secure lives – leads to health outcomes that are more negative than in the general population.[29] Given that food security is a significant consideration currently, and given the relatively *greater* food insecurity people with multiple health and substance use issues likely face, a brief consideration of food security is in order here.

In two studies of food security in downtown Toronto,[3,7] researchers found that food service users often had negative experiences of traditional services for the homeless. In particular, service users sometimes felt that the food offered was of substandard quality, disliked what they saw as the crowding of large numbers of people into cramped, and sometimes unpleasant spaces not of their choosing, and felt that the structure of food services sometimes led to a less than respectful treatment of service users. Some homeless service users identified community kitchens as a preferred form of food service; this speaks to two aspects of food security: first, community kitchens provide a more socially acceptable form of food support than 'soup kitchens' and, second, they

have the potential to allow people more secure access to necessary food supplies than traditional forms of food provision. While traditional food services for the homeless offer fixed meals at fixed times, community kitchens and related food security programs, depending on their flexibility, have the potential to allow people to do their food purchasing and preparation in a way that provides more secure and socially acceptable access to appropriate food involving greater personal choice within the limits placed by poverty and often chaotic lives.[7]

In relation to concurrent disorders, food security research raises some interesting and perhaps contradictory questions. On the one hand, the kind of approaches suggested by food security research, including community kitchens, collective buying programs, food storage space for the homeless, have significant potential for improving the food consumption of homeless clients coping with concurrent mental health and substance issues. This is a population with even more chaotic and less secure lives than the wider homeless and marginally housed population. It is entirely possible that such approaches to food security can have a particularly positive impact on the lives of this population. For those who advocate "greater control over their own lives", as an important goal in working with the marginalized, it is clear that programs emerging from a food security viewpoint have significant potential to impact decisions that affect their own lives in relation to food and nutrition.[2,4,7,29] This especially holds true for those individuals experiencing concurrent disorders. At the same time, this raises questions around the structuring of programs, specifically for those with concurrent disorders. It is highly likely that such programming approaches are significantly more difficult to implement with this population than with those dealing with only one of, or neither substance nor mental health issues.

THE CANADIAN RESEARCH

There is very limited Canadian research on homelessness, addictions, and mental health in relation to nutrition; the research that does exist, is discussed in the different sections of this review.[1,3,4,7,13,42,46] In particular, the Canadian research has looked at the eating

patterns of the homeless and those depending on food support services,[1,3,7,42] the issue of food security for those using food services for the poor and homeless,[3,7,42] and the health impacts of poverty related to homelessness.[13,46] In examining nutritional intake, the Canadian research follows other research, finding for the most part, that nutritional intake was below recommended intake in the key areas;[1] but that energy intake, though low, was sufficient.[42]

While most of the Canadian research has reached conclusions similar to those of studies carried out elsewhere, there has been some innovative Canadian research as well, particularly on potential health implications of homelessness[13] and food security.[3,4,7] In a study of the barriers facing homeless people with diabetes in managing their illness, Stephen W. Hwang and Ann L. Bugeja have delineated difficulties faced by homeless Canadians in managing illness, from not being able to make dietary choices, due to lack of control over the food available, to obtaining medical supplies (in this case insulin).[13] Interestingly, mental health and substance use issues themselves did not appear to be a major issue for homeless people living with diabetes.

This connects well with questions raised by some of the research on food security in Canada.[3,4,7] In Food For Thought, a substantial study of food support services in the Kensington Market area of Toronto,[7] it is clear that major stumbling blocks to the successful attainment of food security and nutritious diets are not only connected to lack of resources necessary to purchase food, but are also related to the lack of control over food that is experienced by users of homeless and other services.[7] Thus, service users themselves identified community kitchens as often being preferable to the 'soup kitchen' models due to the normalization of food consumption and control, over what and when to eat, that it can allow. Similarly, a study of food security among homeless youth in Toronto[3] identified lack of control over food sources as a significant source of food insecurity. These findings, in conjunction with the study on diabetes control among the homeless, show that the Canadian research has identified flexibility of service and control over food intake – what, when, and where to eat – as being crucial to the development of food security for the population under consideration here.

NUTRITION, MENTAL HEALTH, AND SUBSTANCE USE

(i) MENTAL HEALTH AND NUTRITION

Having examined the research on nutrition in the general homeless population, it is worthwhile to examine how that research examines the question of the impact of mental health and substance use on the nutritional intake and outcomes among the homeless. Given the prevalence of mental health issues in the homeless population, the question of whether nutritional intake relates to mental health is a crucial one, though one with inconclusive evidence.

The proportion of the homeless population dealing with serious mental disorders has been estimated anywhere from 21 to 84% of the population.[48] In addition, at least one 1980s study concluded that malnutrition, anemia and hypertension are much more common in mentally ill homeless outpatients.[48] Despite this, some of the studies on nutritional intake and status of the homeless do not consider mental health as an issue.[20] Given that some studies have found no significant relationship between mental health and undernutrition[8], while others have found that psychiatric hospitalization is a negative predictor for obtaining shelter and food stamps,[11] it is unclear what conclusions might be reached on the impact or lack thereof of mental health issues on diet. While it might be that homeless services are sufficiently widely available to ensure that the seriously mentally ill are no worse off than other homeless people when it comes to nutrition, it appears that further research is necessary to answer this question.

At the same time, it is clear that there are diet related illnesses that are more common among the mentally ill than among the general population. Thus, for example, Malcolm Peet, and others, have carried out research that connects the impact of diet on the

relationship between schizophrenia and diabetes,[30] diet and depression,[31] and, as part of a research team, on the impact of Omega-3 fatty acids on patients with schizophrenia.[25] Despite the fact that a research study in Toronto found that: (i) homeless people with diabetes did not find mental health concerns to be a barrier to managing their diabetes,[13] (ii) diabetes is more common among individuals with schizophrenia than in the general population, (iii) diet has an important role in the development of diabetes among individuals with schizophrenia, and, (iv) impacts on the 'outcome and severity of schizophrenia,'[30] all suggest that mental health and diet are closely connected.

This suggests that further research will need to be carried out to examine the role that nutrition in homeless service settings can play in assisting clients with concurrent disorders to attain a higher quality of life.

(ii) SUBSTANCE USE AND NUTRITION

It is clear from the research that substance users have higher rates of malnutrition than those who do not use substances.[8,20, 38,48]In contrast to the data in relation to mental health issues, the data on substance users and diet is more clear, though there is again very limited research on the subject. Thus, Gelberg et al.[8] found that drug use was a key predictor of malnutrition among homeless people, perhaps in part because drug users lose interest in food when using drugs and are focused on obtaining their substance of choice when they have money. In addition, a number of studies have shown that drug users suffer extremely high rates of anorexia; thus, in one study of drug users admitted to detox centres,[38] '66.4% exhibited anorexia on admission.'(11) The same study reports that this finding matches similar findings on anorexia and heroin, cocaine, and other drug use.[38] Interestingly, the study by Santolaria-Fernàndez et al.[38] found that drug users *reported* worse food consumption patterns than their level of malnourishment indicated (16). Thus, while drug users entering detox reported *extremely* poor diets, often only eating once per day, and while they were malnourished, they were, for the most part not as severely malnourished as their diets might lead one to expect.[38] Thus,

'only 30% of the drug addicts weighed less than 80% of the mean weight for the population for sex and height…. only 18% were severely malnourished.'(16)

At the same time, the same study found some disturbing results that are important to understand for those working with service users, particularly those suffering from concurrent disorders. First, female drug users were more severely malnourished than male drug users. Second, the above results held true for drug users who were also dealing with an advanced or active organic pathology. Given how widespread HIV infection, Hepatitis, and other infectious diseases are among substance users and given how severe the malnourishment was among this and other studies' respondents dealing with organic pathologies, it is clear that the nourishment of drug users with drug-related infectious diseases is of major concern.[38] There are likely particular nutritional requirements for female clients and for clients living with the organic pathologies that are all too common among those with drug addictions, and which would be important to consider by the service provider.

The results are less clear when examining nutrition and alcohol use. While studies have concluded that individuals with alcoholism have higher rates of malnutrition, [see 20,48] some have not distinguished between alcohol and illicit substance use[20] and at least one study[8] has concluded that '[a]alcohol may also provide enough calories to keep a person from evidencing some of the characteristics that defined undernutrition in this study.'(452) Thus, it may be that individuals with alcoholism consume insufficient quantities of food, but exhibit less malnutrition due in part to the calories consumed through alcohol. That being said, the evidence tends to support the view that alcoholism is related to malnourishment on the whole.

(iii) THE NUTRITIONAL IMPACT OF SPECIFIC SUBSTANCES

The literature on alcohol raises another issue, one that appears to be seriously understudied. That is, substance users have special dietary needs that are particular to the substances being used. While homeless service users tend to consume far too little vitamin C, as discussed above, this problem is crucial to immune response and is of

particular concern for individuals with alcoholism. As we know, alcohol increases our need for vitamin C, meaning that individuals with alcoholism should consume *more* vitamin C than other people, not less.[23] Thus, Malmauret et al.[23] conclude that homeless populations, and in particular, heavy drinkers and smokers among the homeless, should consume 140 mg/day of vitamin C(319), which is higher than the recommendation for the general population.

This raises a very important question: what nutritional needs of substance users are particular to the substances used? It is clear that a variety of substances have impact on nutritional needs[23, 37] yet there appears to be little or no actual research on the impact of street drugs on nutrient absorption, consumption, or needs. Thus far, we have only been able to identify a single study in this area, on the 'Nutritional Considerations of Chronic Cocaine Addicts,'[37] a brief description of which will help to underline the significance of this question for concurrent disorder service providers.

While cocaine impacts on the body generally, 'of particular importance is its effect on the "reward pathway" of the brain.'(37: 2) Cocaine use depletes the neurotransmitters dopamine – which regulates muscle movement, affects motivation and attention span -- and serotonin – which regulates appetite control, sleep, pain sensitivity, and sensory input processing.[37] Cocaine mimics these two neurotransmitters, thus blocking the receptors that normally bind dopamine and serotonin and thereby preventing uptake of the two neurotransmitters. This encourages 'repeated firing and an intense high as dopamine and serotonin continues to try to become bound with receptors on the postsynaptic neuron.'(2) Thus, chronic cocaine use increases the demand for dopamine and serotonin beyond the ability of the brain to produce them, leading to low levels of neurotransmitters and resulting impacts on mood, appetite and other bodily functioning. This in turn, leads to increased cocaine consumption as the low neurotransmitter levels make it harder to achieve the same euphoric feeling.[37]

Thus, given that neurotransmitters are central to key physiological processes and given that essential amino acids are necessary for neurotransmitter synthesis, heavy cocaine users have specific dietary needs that may be particular to them. In order to increase

serotonin production, the brain requires tryptophan; an increase in the amount of tryptophan entering the brain can be attained through a diet high in carbohydrate and low in protein.[37] On the other hand, a protein rich diet can be effective in increasing levels of dopamine. Finally, the detoxification of cocaine in the liver can lead to the depletion of nutrient stores of vitamins and minerals, especially B vitamins.[37]

As can be seen here, for crack cocaine users it is not enough to just eat a 'healthy diet'. Heavy crack users have, according to this one study; specific dietary needs, relating to carbohydrate consumption, protein consumption, and particular vitamin and mineral needs. The study in question contains two pages of recommendations for serving the nutritional needs of crack cocaine users, though it raises unanswered questions as well. For example, if tryptophan production is boosted by high carbohydrate, low protein intake, while dopamine is boosted by protein intake, what is the appropriate combination of carbohydrate and protein required to achieve the benefits of both of these macronutrients? Given the unfortunate paucity of research in this area, we cannot answer this question at this point.

Section III

CONCLUSION

In any examination of the research on concurrent disorders, one thing becomes clear: the requirements of service users with concurrent disorders cannot simply be understood by adding the needs of those with mental health issues to the needs of those with substance issues. People living with concurrent disorders have needs that are more complex. Thus, the research in this area often examines the outcomes for service users in different programming approaches.[6,21,24,26,27,28,34,35,36,41]

Current research on homelessness and nutrition has not yet examined the particular needs of service users with concurrent disorders. This raises two issues: 1) Further research is required in specific areas in order to better understand the needs of these service users, as well as to understand what will work for them. 2) Any current suggestions for service providers must be tentative and based on putting together research that is not specific to the population to be assisted.

In terms of the research needed, a number of recommendations emerge from this literature review. First, there is simply no research that directly examines the question of the nutritional intake, outcomes or needs, of those living with concurrent disorders. In addition, significant research on the nutritional needs of the users of particular street drugs is necessary. Without a good understanding of the nutritional impacts of particular sets of drug use, it will be much harder to assist people to avoid the most severe impacts of illicit drug use and to assist them to attain more stable and healthy lives. (Think, for example, of how useful it would be in working with methamphetamine users or street drinkers who consume noxious forms of alcohol, if we had a better understanding of the nutritional and related mental health impacts of such substance use.) Furthermore, research on the nutritional needs of those on mental health medications would seem to be a seriously neglected area.

Given the legal issues, it is not surprising that the impacts of illicit drugs have been neglected, but the lack of research on the specific nutritional needs of those using legal mental health medications is quite surprising and needs to be addressed.

Finally, there are two areas in which the nutrition research relating to homelessness needs a change in method. We would argue that the research on food intake has serious limitations due to use of respondent recall and food diaries. When working with seriously mentally ill substance users, such research techniques are prone to collecting data of limited validity. The study which identified that drug users had *less* malnutrition than their self-reported food intake would lead one to expect,[38] suggests that research on the actual food intake of homeless clients – through observation of actual food consumption in homeless service settings for example—would be helpful. In addition, the use of recall raises a second issue requiring research. That is, none of the research examined the questions of, (i) whether people actually consume the food provided, and, (ii) how to get people to consume healthier food when it is provided. As any staff person who works in a meal program or drop-in centre can attest, many service users simply do not eat the vegetables or fruit provided to them. Thus, future research should examine the question of how to get people to consume appropriate diets, given that their immediate needs and preferences may be for heavy, fatty proteins and carbohydrates.

We conclude with a short summary of some potentially useful recommendations for homeless service providers that emerge from the literature. They can be summarized in terms of <u>being flexible enough to meet the individual needs of a highly variable group of clients</u>. If we can reach one conclusion from this examination of the literature, it should be that the needs of different service users couldn't be amalgamated into a single picture of a population with needs that can be fulfilled using one approach. The first thing to remember, as Hazel Kinder[17] points out, is that even if a healthy diet is not attained in the short run, it is important to ensure that people are accessing services that allow them to eat. As she puts it, '[t]here is room for promoting a healthy diet at a later date when the clients' nutritional needs have stabilized and a relationship has been established between client and staff.'[17] Thus, while homeless service providers should provide well-balanced meals that meet the requirements of Canada's Food Guide to Healthy Eating,

food programs should not be structured to presume that clients will consume a healthy diet simply because it is provided.

Given this and given the specific dietary needs of substance users, Kinder[17] and Ross[37] recommend that vitamin and mineral supplements be available in homeless service settings generally[17] and for drug users in particular.[37] At the same time, it is important to provide meal replacement supplements in a manner that is appropriate to the clients: first, dietary supplements can have a high street value, meaning that they should be served in a manner that makes it easy to consume on the spot and difficult to take away and second, specialized supplements may be necessary for those suffering from illnesses such encephalopathy resulting from alcoholism induced liver disease.[17] As evidence becomes available as to the specific nutritional needs of substance users and those on mental health medications, supplements and food that meet those specific needs could be provided. For example, heavy cocaine users have specific needs for thiamine, riboflavin, niacin, patothenic acid, folic acid, protein and carbohydrates—Ross gives specific food suggestions to target these nutrients.[37]

In addition, both Ross and Kinder recommend that relatively healthy snacks, such as fruits and vegetables, but even including high carbohydrate snacks such as granola bars or even chocolate bars[17] be freely available to ensure that even those with the most chaotic lives obtain at least some of the nutrients they require. Given the extreme chaos and unpredictability that can characterize the lives of many of the people living with both mental health and substance use issues, it is important to first ensure that food is easily accessible and fulfills at least some of the nutritional needs identified, even where the food consumed will be less than ideal in health terms. Equally important is that the availability of snacks can ensure that those who are unable to be in specific locations at specific meal-serving times are still able to access some food.

Finally, following from the research on food security issues, it is clear that as part of the process of assisting people to regain control of their lives in order to live in a healthier and more stable manner, it is important to examine the kinds of community development approaches that may work well for clients with concurrent disorders. If community

kitchens could be structured to be flexible enough to respond to the instability of the lives of service users—perhaps being available at non-standard times of day for example —they might have a substantial impact on the nutritional intakes of this population. It would be worth examining the possibility of pilot projects combining community kitchens, food storage and/or cooperative purchasing aimed at this specific group of service users. This would help to assess whether such an approach that meets their need for obtaining food when they are ready and able to access it, and in ways that provide more choice and self-direction might lead to long term improvements in nutritional outcomes, as well as related outcomes such as housing, harm associated with substance use, etc.

If we learn anything from looking at research in relation to those living with concurrent disorders, it should be that public policy on services for this group of people needs to emphasize flexibility in individual services and that there be a variety of services available to meet the needs of particular service users at particular moments. The different needs of people with a variety of mental health issues and a variety of substance-related concerns and needs require services that can assist particular people where they are. The research indicates that those with concurrent disorders have a much more difficult time in obtaining services and less successful results from those services when they are obtained.[24,35,41] When it comes to nutritional intake and food security, the stakes are too high and the needs too immediate for us to allow the inherent difficulty to impact substantially on our clients.

Section IV

COMMUNITY SCAN

The community scan was done in two parts over the summer of 2005. By approaching six networks, a large group of key informants were identified and survey responses were received from twenty-seven organizations. Six organizations also partnered with us to hold interviews with twenty-nine consumers/people with concurrent disorders.

COMMUNITY ORGANIZATIONS

Our scan began with a short survey directed to service providers and was sent out to six networks in Toronto (Concurrent Disorders Network; Toronto Drop-In Network; Harm Reduction Network; Alternative Housing and Services Committee; Scadding Court Community Kitchen Network; Community Health Centre Nutritionist Network) and to other organizations identified by the Steering Committee. A total of twenty seven surveys were completed from a wide range of different types of services, such as drop-in centres, community health centres, hospitals, multi-service agencies and others; also services targeting a mix of populations. Service providers were asked about the major issues and barriers facing people with concurrent disorders regarding nutrition and access to food. They were also asked about strategies that had worked or not worked in the past with regard to these barriers

The following service providers completed the survey:

- 2 Spirited People of the First Nations
- Agincourt Community Services Association
- Breakaway Satellite Program (Addiction Services)
- CAMH (Opiate Clinic)
- Church of the Redeemer (Homeless Drop-in)
- Community Resource Connections of Toronto
- Evangel Hall

- Eva's Initiatives Satellite Shelter
- Four Villages Community Health Centre
- Fred Victor Centre
- Good Neighbours Club
- Good Shepherd Ministries
- Mount Sinai Hospital (Emergency Department)
- Native Men's Residence
- Reconnect Mental Health Services
- Regent Park Community Health Centre
- St. Felix Centre (Homeless Drop-in)
- St. John the Compassionate Mission
- Scadding Court Community Centre
- Scott Mission
- Seaton House Shelter (Dietary Services)
- South Riverdale Community Health Centre
- Street Haven at the Crossroads
- Street Outreach Services
- Toronto People with AIDS Foundation (Food for Life Programme)
- Toronto Public Health (Isobel Graham Project)
- Tumivut Youth Shelter

The survey results indicate that access issues and barriers for people with concurrent disorders could be clustered around seven categories and included lack of income; lack of skills/knowledge; barriers within food serving programs; poor attitudes; special dietary needs and poor housing.

Issue	Examples
Income 24	Limited income (17), lack of transportation (6), barriers to disability pension (1)
Unhealthy foods 19	No healthy food choices (12), lack of variety of food (3), too much junk food (2), no access to vitamins (2)
Attitude 18	Lack of self-esteem and motivation (8), chaotic lives / lack of routine (8), clients feel shame (1), clients don't eat vegetables (1)
Skills/knowledge 14	Lack of knowledge about food, cooking, shopping (14)
Food programs 13	Restricted hours and rules of conduct (11), crowded rooms (1), language barriers (1)
Poor housing 9	Lack of food storage area (6), lack of housing (3)
Special dietary needs 9	Special dietary needs (3), side effects of medications (2); dehydration (1), poor oral health (1), digestive problems

Issue	Examples
	(1), eating disorders (1)

In terms of strategies that had worked in the past, a key word as suggested by the literature review was "flexibility" and was mentioned by a majority of respondents. But, the top approach from respondents was education and empowerment of users. A few respondents mentioned the quality and quantity of foods and two suggested the income barrier be tackled. In terms of strategies that haven't worked, respondents shared fewer examples, although one stated, "most programs are not geared toward people with concurrent disorders." Surprisingly, several group approaches were highlighted on both the 'successful' and 'unsuccessful' lists.

Successful	Examples
Education 18	Cooking classes (8), skill building workshop (1), community gardens (3), involve participants (3), supportive environment (2), help with shopping (1)
Flexibility 7	Variety of meals (3), community dinners (2), take out meals (1), flexible mealtimes (1)
Quality/Quantity 4	Good food box (2), more food (1), fair distribution of food (1)
Income 2	Special diet allowance (1), grocery vouchers (1)
Unsuccessful	**Examples**
Food Programs 8	Food banks (3), community kitchens (1), crowded drop-ins (2), nutrition presentations (2),
Lack of Flexibility 4	Rigid rules and lack of flexibility (3), limited mealtimes (1)

Although it wasn't a question asked nor the purpose of the survey, the most important result was learning that many of the organizations that received the survey, (including many not listed because they did not return the survey), did not know the meaning of concurrent disorder. In presenting to networks, responding to e-mails and in telephone follow-up, a large number of staff contacted by this project and working with people who are homeless or accessing health, mental health or addiction services, were not

familiar with the term 'concurrent disorder'. Once it was explained, many staff was not aware if they had any service users who had concurrent disorders. Certainly most organizations surveyed do not yet have programming specifically targeting this population.

CONSUMER INFORMANTS

The other part of our scan was to interview consumers - people with concurrent disorders. Individual or couple interviews were held with twenty-nine consumers at six sites. During the survey, service providers were invited to offer their organizations as interview sites, and a selection of organizations serving men and women in the east and west of Toronto volunteered. Staff at each site was asked to recruit consumers with concurrent disorders and the informants were paid for their time by the project. This recruitment method results in a biased sample, but our goal was to identify general issues and experiences from informants for a community scan, and not necessarily present a representative sample of all people with concurrent disorders. The organizations that participated in the interviews were:

- St. Stephen's Community House – Corner Drop-In
- Adelaide Centre for Women – Fred Victor Women's Drop In
- Parkdale Community Health Centre
- Parkdale Activity and Recreation Centre (PARC)
- Accommodation Information and Support (AIS)
- St. Felix Centre

Out of the twenty-nine informants, seventeen (59%) were men, and eleven (38%) were women. One informant was transsexual/transgender. Informants ranged in age from their twenties to their fifties, with most falling in the forties age group. Informants were not asked their age but most self-disclosed this at some point during the interview.

Similarly, informants were not asked about specific addiction issues, but many self disclosed this information. Substances reported include: alcohol (59%), crack (45%), marijuana (24%), heroin (14%), and multiple addictions (48%). Informants were not asked about specific mental health issues either, and a majority of informants chose not

to self-disclose this information. Of those who did disclose: depression (28%), eating disorders (10%), schizophrenia (3%) and bipolar (3%) were identified by name. In general, informants were more comfortable disclosing their addiction issues rather than their mental health issues, but it was related to location.

In supportive housing settings, informants discussed mental health issues more comfortably, but were not comfortable revealing addiction issues. Apparently, the rules governing different settings and safety concerns are impacting on informants being open about their concurrent disorder status. A majority of informants (65%) were housed, and the rest were in shelters (17%), on the street (14%) and staying with family temporarily (3%).

INTERVIEW FORMAT

Interviews were based on open-ended questions. Some general questions were asked of all informants but the interviews were fluid and followed a conversational style, led by the information that was being given by the informant. In the end, most of the questions in the interview outline were asked, or the topics were covered, in each interview. Informants were first asked some general questions: what was working well in their lives right now and what was going well for them. Then they were asked what their major worries or concerns were. It should be stated up front that none of the participants answered that food or nutrition was a major concern in answer to this question. The main concerns mentioned were mostly about housing and managing addictions. Only when prompted were the concerns related to food provided by the informants.

FOOD, NUTRITION AND ACCESS TO FOOD AS A PRIORITY

Informants were then asked how food, access to food or eating nutritious food fit into their lives at this point. Most answered that food was a high priority and they were concerned about eating well, but it was very difficult to do so because of a number of barriers. Food was commonly seen as a priority after shelter, when they were not using

drugs or alcohol. Generally, when informants were housed and making some progress trying to deal with their addictions, food (and eating healthy nutritious food) was of great concern. For those with more chaotic lives, food was seen as "a means to survive" and was not as important. One informant stated that at these times “that is what my whole world revolves around - finding a place to sleep”.

Many informants said that they knew where to get food and that there were many sources of free food, so they knew they would never starve. Most knew the resources and networks, at least in their own neighbourhoods. These sources of food included drop-ins, shelters and food banks. Informants who were housed and paying rent commonly described the “constant battle" to make ends meet and afford to buy food. Many were struggling with addictions that at times took priority over food and other expenses. Informants with other health concerns were especially worried about their access to appropriate foods (e.g. milk and calcium sources for someone with osteoporosis; low fat and lean meats for someone with a heart condition).

ACCESSING FOOD

The vast majority of informants got their meals from drop-ins, food banks and shelters. Some informants also bought their own food and prepared it at home, but would generally not do that more than once or twice a week because they could not afford to buy and cook all of their own food. They needed to supplement this with free sources of food. Many also felt they did not have the skills and knowledge to cook for themselves and some had very little interest in cooking. The interest and motivation to cook for oneself was sharply divided along gender lines. The vast majority of women stated that it was very important for them to be able to buy their own food and prepare their own meals. Most of the men said they did not have a lot of interest or skills in preparing meals and cooking.

EATING WELL

When informants were asked about times in their life when they ate well, paid attention to what they were eating and were generally healthy, many stated that these times were when they had "Mom's cooking" - as children or now as adults. A number of informants described retreating to their Mother's house for some respite care after a long crack run when they needed to sleep, eat and generally recover. One informant got extremely emotional when talking about how her mother took care of her when she was in bad shape. A few informants mentioned the importance of being in a relationship – "having someone love and care for you helps you eat better"; and "cooking for yourself is hard. If I had someone to cook for, it would be easier". Most informants recognized that they ate best when they were not using drugs or drinking. Being housed also made a difference as they could then start to focus on other needs.

Some informants ate best when they were in shelters or were institutionalized or hospitalized. These were the informants living with multiple addictions and mental health issues. They felt that the routine of regular meals in such settings helped them eat, whereas if they were on the street they would not have paid much attention to food at all and not accessed the drop-ins on a regular basis either.

In summary, informants ate best when they: (1) ate with family, (2) were in a relationship, (3) were not using substances and, (4) were housed or were in a shelter/hospital (for those with multiple mental health and addiction issues)

NOT PAYING ATTENTION TO FOOD OR DIET

When asked about times they didn't pay attention to their eating or didn't eat, almost all the informants said that this was when they were using. They reported having absolutely no interest in food ("it doesn't feature at all"), especially when using crack.

One informant described this as "the primary relationship in one's life is using" and that the need for food, sleep and taking care of oneself is turned off. He described a time when a friend came to his apartment with some take-out food for dinner, which he had every intention of eating, and then another friend came with crack. "With that choice right in front of me, eating versus using, I chose to use".

Many informants described cycles of depression (often associated with homelessness), which triggered drug use with no eating or sleeping for a number of days, and then a period of sleeping and eating huge amounts of food - a binge and starve cycle. This was typical with crack use, but informants, whose primary addiction was alcohol, described a similar pattern. One informant declared, "booze was our food".

Some informants reported not eating much at all when they were having manic or psychotic episodes. One informant with bipolar disorder said that when she was depressed she would get anxious and obsessive and ate three or four meals a day and then not eat at all when she was manic. Another said that when he was on the street and psychotic, he once had only two cups of coffee and seven cigarettes in a week. He did not access drop-ins or shelters and did not eat during this time.

In summary, informants said they paid little or no attention to their diet when they were using drugs or alcohol, depressed, or manic/psychotic (one informant)

GOING WITHOUT FOOD FOR DAYS

Most informants have gone without food for three to five days at a time and this was most often associated with crack or alcohol use. For many of them this was a regular cycle (as described above). The informants, who used heroin, said that they were usually able to function and eat while using it, but with crack it was totally different. One informant said she had gone twenty-eight days on crack and, "I lost a huge amount of weight. I would just hustle for the next fix". One informant said he would try to eat a big meal before getting high, so his body would have some reserves. Most reported drinking lots of fluids but "if you put a steak in front of me, I wouldn't eat it". It was common for informants to report losing large amounts of weight or of having cyclical weight fluctuations. Depression was another common reason for going for long periods without food. "I just didn't have the thought or idea to eat properly". As mentioned above, it was sometimes hard to separate out the depression from the drug use as they were often inter-linked and one would trigger the other.

The informants with eating disorders (anorexia or anorexia/bulimia) clearly had different experiences. They could not report any time when they had eaten regular meals. They tended to snack all through the day and suffered from intestinal and digestive complications which added to their inability to eat. They tended to centre their whole lives around food because they ate small amounts all day.

PATTERN OF SKIPPING MEALS

When asked if they skipped meals or ate regularly, many informants said they ate regularly. However, when this was probed further, it appeared that they ate one or two meals a day and that this was viewed as "eating regular meals". Very few ate three meals a day - breakfast, lunch and dinner. Most would eat in the middle of the day and then later in the afternoon. For informants who were not housed, it was common to eat more than one meal at "lunchtime" and then not eat again until the following day. Even those who were housed would often have their main meal at a drop-in (or go to more

than one drop-in in a day) and then eat sandwiches or light snacks at home. Very few ate breakfast, unless it was at a drop-in.

THE EFFECTS OF INCREASED INCOME OR STABLE HOUSING

Informants were asked how more income or more stable housing would change the way they accessed food or what they ate. The responses were varied. Some felt that their addictions had such a firm grip on their lives that, "if I had more money I'd be screwed - I'd do more drugs"; or "if I had more money I could afford a better diet but addiction plays a large role in my life. It takes over. I would probably do more drugs".

Most of the women felt that they would definitely eat better and would be able to buy their own food and cook for themselves. Many of the men said having more money wouldn't change much in the way they ate—except they may eat out more in restaurants. For the most part, they did not seem to have much interest in cooking for themselves. Most informants remarked that having more money and more stable housing meant they had more choices about what, where and when to eat and that this would be good. Those who had special dietary needs that were related to health concerns, said that more money would make a big difference to them as the foods that they need are not accessible in the drop-in and shelter system and are often expensive to buy. A number of informants receive the special diet allowance and feel insecure that it may be cut off or be changed in a way that affects them badly.

THE $10 SCENARIO - PRIORITIES FOR SPENDING MONEY

One of the questions asked was attempting to understand people's priorities in spending money. They were given a scenario where they found $10 lying on the street. There was no one else around so they were able to keep it. They were asked what they would most likely spend it on. About two thirds of the informants said they would spend it on drugs, alcohol, or cigarettes. Only a few said they would spend it on food, and of those, most

said they would buy a sandwich, pop, or fast food meal. Two informants said that in the past, they would have spent it on drugs "for sure" but that right now they were not using and would probably buy food.

BARRIERS TO EATING AND ACCESSING HEALTHY FOOD

Throughout the interviews, informants mentioned a number of barriers to eating and accessing healthy, nutritious food. These can be divided into "internal" and "external" barriers, where "internal" refers to people's own individual issues (addictions, mental health issues) and "external" being those in their environment.

(i) EXTERNAL BARRIERS

The two most common barriers identified were the schedules of meals at drop-ins and shelters, and the quality of food at these services (and at food banks). Informants spoke of the lack of fruits and vegetables (even though they recognized the effort of some drop-ins and shelters to address this) and too many carbohydrates and sugars. One informant felt that he had to eat at three different drop-ins in order to get enough to eat because the portions were too small and after the meal he was still hungry. Many people mentioned theft as a huge problem in shelters and shared facilities. The lack of storage facilities (both dry goods and refrigeration space) was seen as a serious barrier. Informants felt they were stuck with the meals that drop-ins and shelters offered and the times at which they were offered and had very little flexibility and choice regarding what and when to eat. Most informants understood that drop-ins and shelters work with very tight budgets and often have to use donated food.

Most informants commented on the lack of access to food at night and on weekends. The hours between seven o'clock in the evening and seven o'clock in the morning were especially difficult, and one participant commented that for her that was the time when the drugs were about to "fizzle out". Many commented on the fact that when they

needed to eat, the need was urgent and were often at times when food was not readily available. One man said he would have to go out and beg for change if he got hungry at night. Informants spoke of having to "learn the system" to make sure they could access food. Some informants had great difficulty with the crowded settings of drop-ins and all the rules at the shelters. Some were barred from many of the services and so had slowly reduced their access to food and other kinds of assistance.

The lack of knowledge and skills about cooking and food preparation, and the lack of money were another two barriers commonly mentioned by informants. Most informants could not afford to buy food and cook for themselves every day, even if they had the facilities to store food and cook it. They had trouble making their money last through the month and were often out of money by the middle of the month. Many of them who did not have a refrigerator or storage space for food, and would shop for small items on a daily basis at the more expensive corner stores or small grocery stores. One informant noted that in the downtown core, the grocery stores are mostly the higher end chains and cheaper stores were harder to reach. It was also noted that "street level" food from vendors was cheap and affordable but not nutritious (e.g., hot dogs). Some informants reported that they had never learned to cook. Once again, men were more likely to say this than women.

Many informants said that there was a lot out there in terms of food services, but sometimes was not generally known to people on the street, especially those who were new to the streets. One man spoke of being new to the streets for a week before he learned about drop-ins and food services. During this week he foraged food from garbage cans in malls to survive. The lack of services outside of the downtown core was mentioned by a couple of informants. They both reported having to rely on other people for food and shelter and that this had complicated their relationships with these friends or family members and had left them vulnerable to abuse and violence.

Some informants spoke of the loss of services and cutbacks as well as a general lack of compassion and caring in the city. Safety was an issue mentioned by women and one

woman said she would never go to a drop-in alone. She also mentioned that for women with young children, going to drop-ins with your child(ren) was dangerous as there was always a risk the staff would call in Children's Aid and so this kept women away from much needed services.

In summary, external barriers include: scheduled times of meals; poor quality of food; lack of secure food storage or preparation space; lack of money to buy food; lack of access at night and on weekends; problematic nature of crowded facilities and rules of behaviour; lack of skills in cooking & shopping; lack of information on food resources; lack of services outside the downtown core; safety concerns (for women).

(ii) INTERNAL BARRIERS

These were mostly to do with people's addiction and mental health issues or other health issues. The issue of not eating when using crack has been noted above. The informants on methadone said they often felt nauseous (especially if on high doses) or had upset stomachs. Informants on medications for their mental health issues reported having some side effects such as dry mouth and food tasting "funny" that challenged their appetites. One woman said her meds had totally changed her metabolism and she put on a lot of weight. The effects of depression on appetite and the motivation to eat were often featured in the interviews. Informants with eating disorders had many issues around food and were often suspicious of food in drop-ins and the cleanliness of the food storage and preparation process.

General health issues also posed barriers for some informants. Some had allergies or special dietary needs that could not be accommodated at the shelters and drop-ins. One woman who had Hep C, HIV and was on methadone had a very difficult time with food.

The methadone often made her nauseous, as did some of her HIV medications. Her Hep C often made her feel weak and sick. She could not eat full meals and had to snack

throughout the day. She reported feeling exhausted just thinking about food and eating and most days was not motivated to eat much at all. A number of informants had Hep C and two had osteoporosis, and they need specific foods to manage these conditions properly.

Some informants said they had bad eating habits to begin with and had never eaten well, even before being homeless. They found these habits hard to break. Two men said that they had grown up being hungry and never having enough food to go around and so were always extremely worried about access to food. One native man had been to a residential school where as a young boy, he had been forced to eat and was often beaten. Because of his experience, mealtimes were linked with fear. In addition, they were being fed food that was foreign to them culturally. When they returned home in the summer, it was not peak hunting season and so they did not learn their rituals and culture around food. They were also often short of food on the reserve and went hungry. He reported a habit of overeating "to fill an emotional void".

In summary, internal barriers include: the nature of the drug used (such as crack); side effects of methadone or psychiatric medications; depression; eating disorders; other chronic health issues; and lifelong attitudes to food (often related to poverty).

SUPPORT STRATEGIES

Informants spoke about situations that helped them survive with their daily lives. The drop-ins and shelters featured most often. Almost all informants said that in the downtown area, there were plenty of programs offering food and that no one should go hungry. "As long as you know where the resources are, you're fine". Although, the food was not always felt to be nutritious and balanced, support programs offered at drop-ins and shelters were highly regarded and were seen as a "way of getting my life back again". Drop-ins were seen as places that offered far more than just a place to hang out and get food.

They provide an important social safety net at a time when many other supports and programs have been cut; they are often a lifeline. While some said that the strict rules and restricted hours of meals at shelter were a barrier, others said they ate best when they were in more structured settings. Some shelters would put food aside for people who had missed the meal and this was seen as a very useful service, increasing the flexibility of food availability a little. Out of the Cold was mentioned a number of times as an excellent program "given with kindness" and " a place where I feel safe".

Outcome is improved by having a worker or someone supportive guide people through the difficulties of daily living. Informants felt that they needed one-on-one guidance and support to cope with the strong pull of their addictions and to help mitigate the impact of their mental health issues. Someone to help with budgeting, shopping and develop cooking skills was very helpful and seemed to work well. Informants felt that getting information about healthy eating and learning to cook would help develop skills and motivation around eating.

Some informants said medications for their mental health issues were really useful and other chose not to use meds and said they felt better off without them. One woman said that being on meds allowed her to sit still and eat a whole meal.

In summary, the supports identified by informants were: (a) services offered by drop-ins, (b) shelters, (c) having a worker or someone supportive, and (d) medication and health care (for some).

CONCLUSION

Many broad systemic solutions are found in the responses of our informants. They eat better when they are housed, when they have income, when they have family and friends, when they have health care, when they have access to harm reduction tools, and when they have access to individualized services. While many of these systemic

solutions are beyond the control of our Steering Committee, they must be top of mind as we pursue our actions.

Similar to the findings of the literature review, our informants are asking for greater flexibility in services and a move away from large crowded programming to individualized programming targeting people with concurrent disorders. During regular cycles of addiction use and non-use, and illness and recovery, people may also need to access different services in different ways.

Section V

RECOMMENDATIONS

The Steering Committee spent several months reflecting on the findings of the literature review and community scan. As noted in the conclusion, many broad systemic solutions are indicated by our scan. The most important ways to ensure that people with concurrent disorders eat well is to provide them with adequate income, health care and supportive housing. Many people with concurrent disorders experience the same barriers to nutrition as other populations living in poverty in our city.

Nevertheless, the Steering Committee was determined to propose some concrete actions that can build on the results of this scan in the absence of these systemic solutions. Because we wanted these recommendations to lead to action, the Steering Committee has indicated the lead partners or "champion" for each of the eight recommendations (TWH = Toronto Western Hospital;
SSCH = St. Stephen's Community House)

	BACKGROUND	ACTION	CHAMPION
#1	Committee wants to convert learnings to action.	**Hold a launch event/forum to bring together interested parties to review the learnings and action items and engage in dialogue about these issues.**	TWH / SSCH
#2	Many respondents in the scan had poor understanding of concurrent disorders and no programming geared to their specific needs.	**Support Toronto Concurrent Disorder Network to continue to raise awareness of CD and best practices for working with people with CD**.	TWH

#3	Many issues were identified regarding the way food programs and meal programs operate.	**Convene food program providers to educate on findings of report and discuss service coordination that would include meals at different schedules, take away meals, barring practices, publishing meal schedules, vegetarian menus and other suggestions from informants.**	SSCH
#4	Many consumers identified going hungry and having unmet special dietary needs.	**Support City of Toronto efforts to raise the basic needs component maximum for Ontario Works clients by 21.6% and thereafter adjusted annually, and advocate for people with concurrent disorders to receive all applicable special diet allowances.**	SSCH / TWH
#5	Many food programs and housing providers lack specialized knowledge of nutrition, particularly as it relates to mental health and addiction.	**Provide workshops, education and consultation for community programs on nutrition, meal planning and space planning by dietitians. Provide education on eating disorders that are often overlooked in this population. Provide education and fact sheets for consumers on low budget diets**	TWH
#6	Some consumers identified a lack of resources relating to shopping, cooking, food storage and motivation to eat. Some consumers identified families and relationships playing a positive role in eating.	**Explore the creation of pilot 'personal support worker project' to provide motivation and resources for people with CD in shopping, cooking and eating. This pilot can also support family members and relationship partners to play a stabilizing role in nutrition.**	SSCH
#7	The nature of mental health and addictions make many current group programs inaccessible to people who need to access food and supports.	**a) Convene interested partners to advocate for a pilot "wet drop-in", or "low threshold drop-in", for those who cannot access other services due to restrictions on behaviour or time of day.** **b) Promote harm reduction strategies such as distribution**	SSCH

		of nutritional supplements, vitamins, energy bars, meal replacement supplements, and bottled water for people with CD. **c) Monitor the implementation of the Toronto Drug Strategy as it relates to people with CD.**	
#8	There is a lack of research in the area of CD and nutrition. There is a lack of research on the nutritional impact of illicit drugs, and on the adverse interactions of drugs and prescription medications with foods.	**Recommend to Wellesley Central to support research proposals that fill these gaps in our knowledge in relation to CD and nutrition.**	SSCH / TWH

APPENDIX A

References:

1. Bunston, Terry and Breton, Margot: The Eating Patterns and Problems of Homeless Women. Women & Health 16,1: 43-62 (1990).

2. Campbell, Cathy C.: Food Insecurity: A Nutritional Outcome or a Predictor Variable? Symposium: Nutritional Assessment and Intervention, American Institute of Nutrition, 408-415 (1991).

3. Dachner, Naomi, Tarasuk, Valerie: Homeless "squeegee kids": Food insecurity and daily survival. Social Science and Medicine 54: 1039-1049 (2002).

4. Dietitians of Canada: Individual and Household Food Insecurity in Canada Position of Dietitians of Canada, 2005.

5. Drake, Mary Anne: The Nutritional Status and Dietary Adequacy of Single Women and Their Children in Shelters. Public Health Reports 107, 3: 312 (1992).

6. Drake, Robert E., Bebout, Richard R., and Roach, Jeffrey P.: A Research Evaluation of Social Network Case Management for Homeless Persons with Dual Disorders. In Case management for mentally ill patients: theory and practice, edited by Maxine Harris and Helen Bergman, Harwood Academic Publishers, Switzerland, 1993, pp. 83-98.

7. Food for Thought: Community Food Plan Report on Food Security in Kensington/ Alexandra Park.

8. Gelberg, Lillian, Stein, Judith A., Neumann, Charlotte G.: Determinants of undernutrition among homeless adults. Public Health Reports 110, 4: 448-454 (1995).

9. Gelberg, Lillian, and Linn, Lawrence S.: Social and physical health of homeless adults previously treated for mental health problems. Hospital & Community Psychiatry 39, 5: 510-516 (1988).

10. Harris, Maxine, and Bergman, Helen (editors): Case management for mentally ill patients: theory and practice. Harwood Academic Publishers, Switzerland, 1993.

11. Heslin, Kevin, Andersen, Ronald M., and Gelberg, Lillian: Case Management and Access to Services for Homeless Women. Journal of Health Care for the Poor and Underserved 14,1: 34-51 (2003).

12. Hser, Yih-Ing, Gelberg, Lillian, Hoffman, Valerie, Grella, Christine E., McCarthy, William, Anglin, M. Douglas: Health Conditions Among Aging Narcotics Addicts: Medical Examination Results. Journal of Behavioral Medicine 27, 6: 607-622 (2004).

13. Hwang, Stephen W., and Bugeja, Ann L.: Barriers to appropriate diabetes management among homeless people in Toronto. Canadian Medical Association Journal 163, 2: 161-5 (2000).

14. Isralowitz, Richard E., and Trostler, Naomi: Substance Use: Toward an Understanding of Its Relation to Nutrition-Related Attitudes and Behavior Among Israeli High School Youth. Journal of Adolescent Health 19: 184-189 (1996).

15. Johnson, Lesley J., and McCool, Audrey C.: Dietary Intake and Nutritional Status of Older Adult Homeless Women: A Pilot Study. Journal of Nutrition for the Elderly 23, 1: 1-21 (2003).

16. Kelly, Elizabeth: Nutrition Among Homeless Children. Public Health Reports 113, 4: 287 (1998).

17. Kinder, Hazel: Implementing nutrition guidelines that will benefit homeless people. Nursing Times 100, 24: 32-4 (2005).

18. Kline, John D.: Challenges to the Clinical Case Management of the Chronically Mentally Ill: Emerging Special Populations. In Case management for mentally ill patients: theory and practice, edited by Maxine Harris and Helen Bergman, Harwood Academic Publishers, Switzerland, 1993, pp. 237-255.

19. Kraybill, Ken, and Zerger, Suzanne: Providing Treatment for Homeless People With Substance Use Disorders: Case Studies of Six Programs. National Care for the Homeless Council, 2003.

20. Langnäse, Kristina, and Müller, Manfred J.: Nutrition and health in an adult urban homeless population in Germany. Public Health Nutrition 4, 3: 805-811 (2001).

21. Linn, Lawrence S, Gelberg, Lillian, and Leake, Barbara: Substance abuse and mental health status of homeless and domiciled low-income users of a medical clinic. In Dual diagnosis of mental illness and substance abuse: Collected articles from H&CP. Washington: American Psychiatric Publishing Inc.: 36-40 (1993).

22. Luder, E., Ceysens-Okada, E., Koren-Roth, A., and Martinez-Weber, C.: Health and nutrition survey in a group of urban homeless adults. Journal of the American Dietetic Association, 90, 10: 1387-1392 (1990).

23. Malmauret, L., Leblanc, JCh., Cuvelier, I., and Verger, Ph.: Dietary intakes and vitamin status of a sample of homeless people in Paris. European Journal of Clinical Nutrition 56: 313-320 (2002).

24. Mehr, Joseph: Introduction to the Special Issue: Overview of MISA Dual Diagnosis and Treatment. Psychiatric Rehabilitation Skills 5, 1: 22-28 (2001).

25. Mellor, Jan E., Laugharne, Jonathon D.E., and Peet, Malcolm: Omega-3 fatty acid supplementation in schizophrenic patients. Human Psychopharmacology: Clinical and Experimental 11, 1: 39-46 (1996).

26. Nuttbrock, Larry, Ng-Mak, Daisy S., Rahav, Michael, and Rivera, James J.: Pre- and post-admission attrition of homeless, mentally ill chemical abusers referred to residential treatment programs. Addiction, 92, 10: 1305-1315 (2005).

27. Nuttbrock, Larry A., Rahav, Michael, Rivera, James J., Ng-Mak, Daisy S., and Link, Bruce G.: Outcomes of homeless mentally ill chemical abusers in community residences and a therapeutic community. Psychiatric Services 49, 1: 68-76 (1998).

28. Nuttbrock, Larry A., Ng-Mak, Daisy S., Rahave, Michael, and Rivera, James J.: Pre- and post-admission attrition of homeless, mentally ill chemical abusers referred to residential treatment programs. Addiction 92, 10: 1305-1315 (1997).

29. Olson, Christine M.: Nutrition and Health Outcomes Associated with Food Insecurity and Hunger. The Journal of Nutrition 129, 2s: 521S-524S (1999).

30. Peet, Malcolm: Diet, diabetes and schizophrenia. British Journal of Psychiatry 184 (suppl. 47): s102-s105 (2004a).

31. Peet, Malcolm: International variations in he the outcome of schizophrenia and the prevalence of depression in relation to national dietary practices: An ecological analysis. British Journal of Psychiatry 184, 5: 404-408 (2004b).

32. Power, R., and Hunter, G: Developing a strategy for community-based health promotion targeting homeless populations. Health Education Research 16, 5: 593-602 (2001).

33. Power, Robert, French, Rebecca, Connelly, James, George, Steve, Hawes, Derek, Hinton, Teresa, Klee, Hilary, Robinson, David, Senior, Jeanette, Timms, Philip, and Warner, David: Health, health promotion, and homelessness. BMJ 318: 590-592 (1999).

34. RachBeisel, Jill, Scott, Jack, and Dixon, Lisa: Co-Occurring Severe Mental Illness and Substance Use Disorders: A Review of Recent Research. Psychiatric Services 50, 11: 1427-1434 (1999).

35. Rahav, Michael, Nuttbrock, Larry, Rivera, James J., and Ng-Mak, Daisy: Recruitment into Treatment of Homeless, Mentally Ill, Chemical Abusing Men. Journal of Drug Issues 27, 2: 315-328 (1997).

36. Rahav, Michael, and Linnk, Bruce G.: When social programs converge: Homeless, mentally ill, chemical misusing men in New York City. International Journal of the Addictions 30, 8: 1019-1042 (1995).

37. Rose, Jody: Nutritional Considerations of Chronic Cocaine Addicts. No bibliographic information available.

38. Santolaria-Fernández, Francisco J., Gómez-Sirvent, J. L., González-Reimers, C., Batista-López, José N., Jorge-Hernández, José A., Rodríguez-Moreno, Fermín, Martínez-Riera, Antonio, and Hernández-Garcia, Miguel T.: Nutritional assessment of drug addicts. Drug and Alcohol Dependence 38: 11-18 (1995).

39. Segal, Steven P., Silverman, Carol, and Temkin, Tanya: Characteristics and Service Use of Long-Term Members of Self-Help Agencies for Mental Health Clients. Psychiatric Services 46, 3:269-274 (1995).

40. Silliman, Kathryn, Yamanoha, Michelle M., and Morrissey, Ann E.: Evidence of nutritional risk in a population of homeless adults in rural Northern California. Journal of the American Dietetic Association 98,8: 908-910 (1998).

41. Skinner, Darren C.: A Modified Therapeutic Community for Homeless Persons with Co-Occurring Disorders of Substance Abuse and Mental Illness in a Shelter: An Outcome Study. Substance Use & Misuse 40: 483-497 (2005).

42. Starkey, Linda Jacobs, Kuhnlein, Harriet V., Gray-Donald, Katherine: Food bank users: sociodemographic and nutritional characteristics. Canadian Medical Association Journal 158, 9: 1143 (1998).

43. Stein, Judith A., and Gelberg, Lillian: Homeless Men and Women: Differential Associations Among Substance Abuse, Psychosocial Factors, and Severity of Homelessness. Experimental and Clinical Psychopharmacology 3, 1: 75-86 (1995).

44. Stein, Judith A., and Gelberge, Lillian: Comparability and representativeness of clinical homeless, community homeless, and domiciled clinic samples: Physical and mental health, substance use, and health service utilization. Health Psychology 16,2: 155-162 (1997).

45. Susser, E.S., Linn, S.P., and Conover, S.A.: Risk Factors for homelessness among patients admitted to a state mental hospital. American Journal of Psychiatry, 148, 12: 1659-1664 (1991).

46. Turnbull, Jeff, and Podymow, Tiina: The Health Consequences of Poverty in Canada. Canadian Journal of Public Health 93, 6: 405 (2002).

47. Wenzel, Suzanne L., Ebener, Patricia A., Koegel, Paul, and Gelberg, Lillian: Drug-Abusing homeless clients in California's substance abuse treatment system. Journal of Psychoactive Drugs 28, 2:147-159 (1996).

48. Wiecha, Jean L., Dwyer, Johanna T., and Dunn-Strohecker, Martha: Nutrition and Health Services Needs Among the Homeless. Public Health Reports 106, 4: 364-374 (1991).

49. Wiecha, Jean L., Dwyer, Joahnna T., Jacques, Paul F., and Rand, William M.: Nutritional and economic advantages for homeless families in shelters providing kitchen facilities and food. Journal of the American Dietetic Association 93,7: 777-783 (1993).

50. Wilson, Meg: Health-Promoting Behaviors of Sheltered Homeless Women. Community Health 28, 1: 51-63 (2005).

51. Wolgemuth, J.C., Myers-Williams, C., Johnson, P., and Henseler, C.: Wasting malnutrition and inadequate nutrient intakes identified in a multiethnic homeless population. Journal of the American Dietetic Association, 92, 7: 834-839 (1992).